

January 14, 2005

Mr. Jeffrey S. Forbes
Site Vice President
Arkansas Nuclear One
Entergy Operations, Inc.
1448 S. R. 333
Russellville, AR 72801

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT 1 - RESPONSE TO NRC BULLETIN
2003-02, "LEAKAGE FROM REACTOR PRESSURE VESSEL LOWER HEAD
PENETRATIONS AND REACTOR COOLANT PRESSURE BOUNDARY
INTEGRITY" (TAC NO. MC0520)

Dear Mr. Forbes:

On August 21, 2003, the U.S. Nuclear Regulatory Commission (NRC) issued NRC Bulletin 2003-02, "Leakage from Reactor Pressure Vessel Lower Head Penetrations and Reactor Coolant Pressure Boundary Integrity," to the industry. This Bulletin informed addressees that current methods of inspecting the reactor pressure vessel (RPV) lower heads may need to be supplemented with bare-metal visual inspections in order to detect reactor coolant pressure boundary leakage and requested these addressees provide the NRC with information related to inspections that have been performed to verify the integrity of the RPV lower head penetrations.

The Bulletin requested that addressees provide a description of the RPV lower head penetration inspection program that would be implemented at their respective plants during the next and subsequent refueling outages. This description was to include the extent of the inspection, the inspection methods to be used, the qualification standards for the inspection methods, the process used to resolve the source of findings of boric acid deposits or corrosion, the inspection documentation to be generated, and the basis for concluding that their plant satisfied applicable regulatory requirements related to the structural and leakage integrity of the RPV lower head penetrations.

By letter dated November 19, 2003, Entergy Operations, Inc. (Entergy) provided its response to this request. Entergy indicated it planned to perform a bare-metal visual examination of 100 percent of the circumference of all 52 RPV lower head penetrations as they enter the RPV lower head, during the spring 2004 refueling outage at Arkansas Nuclear One, Unit 1 (ANO-1). In its same response, Entergy stated that the scope for future examinations, beyond the spring 2004 refueling outage, will consider the lessons learned from the spring 2004 inspections and other RPV lower head penetration inspections conducted within the industry. The NRC staff notes that there are a number of ongoing industry and NRC staff activities related to developing criteria for RPV lower head penetration inspections. The NRC staff expects that the criteria for these inspections will involve periodic bare-metal visual examinations or their equivalent.

The Bulletin also requested that addressees provide a summary of the RPV lower head penetration inspection that was performed at their plants, the extent of the inspection and the methods used, a description of the as-found condition of the lower head, any findings of relevant indications of through-wall leakage, and a summary of the disposition of any findings of boric acid deposits and any corrective actions taken as a result of indications found.

By letter dated July 12, 2004, Entergy provided a summary of its inspection results from the spring 2004 refueling outage at ANO-1. Entergy reported it had performed a bare-metal visual examination of 100 percent of the circumference of the 52 RPV lower head penetrations as they enter the RPV lower head, with no evidence of penetration leakage observed.

Based on its review of Entergy's responses to NRC Bulletin 2003-02, the NRC staff finds that ANO-1 has met the reporting requirements of the bulletin. Accordingly, TAC NO. MC0520 is closed for ANO-1.

Sincerely,

/RA/

Thomas W. Alexion, Project Manager, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-313

cc: See next page

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By letter dated July 12, 2004, Entergy provided a summary of its inspection results from the spring 2004 refueling outage at ANO-1. Entergy reported it had performed a bare-metal visual examination of 100 percent of the circumference of the 52 RPV lower head penetrations as they enter the RPV lower head, with no evidence of penetration leakage observed.

Based on its review of Entergy's responses to NRC Bulletin 2003-02, the NRC staff finds that ANO-1 has met the reporting requirements of the bulletin. Accordingly, TAC NO. MC0520 is closed for ANO-1.

Sincerely,

/RA/

Thomas W. Alexion, Project Manager, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

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Arkansas Nuclear One

cc:

Senior Vice President
& Chief Operating Officer
Entergy Operations, Inc.
P. O. Box 31995
Jackson, MS 39286-1995

Vice President, Operations Support
Entergy Operations, Inc.
P. O. Box 31995
Jackson, MS 39286-1995

Director, Division of Radiation
Control and Emergency Management
Arkansas Department of Health
4815 West Markham Street, Slot 30
Little Rock, AR 72205-3867

Wise, Carter, Child & Caraway
P. O. Box 651
Jackson, MS 39205

Winston & Strawn
1400 L Street, N.W.
Washington, DC 20005-3502

Mr. Mike Schoppman
Framatome ANP
3815 Old Forest Road
Lynchburg, VA 24501

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
P. O. Box 310
London, AR 72847

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

County Judge of Pope County
Pope County Courthouse
Russellville, AR 72801

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